

IN THE CLAIMS:

Please cancel Claims 1 to 23, 27 to 49, 52 to 75, 78 to 101 and 104 without prejudice or disclaimer of subject matter. Please rewrite Claims 24, 50, 76 and 102 into independent form.

1. to 23. (Cancelled)

24. (Currently Amended) A method according to Claim 23, for managing a plurality of network devices on a network, said method comprising the steps of:
detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;
obtaining, by using the first communication protocol, from the detected network device, information related to the corresponding network device;
formatting the obtained information into a directory entry;
sending the directory entry to a directory server by using a second communication protocol;
monitoring for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server;
obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol;
extracting updated data from the updated directory entry; and

sending the updated data to the network device which corresponds to the updated directory entry for placement into the information of the corresponding network device.

wherein the directory entry is formatted according to a standardized schema, and wherein the standardized schema of the directory entry includes a source-flag to indicate the source of the directory entry.

wherein the source-flag in each directory entry is utilized by a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a multicast message over the network which indicates that an updated directory entry has been detected,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a high state, the directory plug-in module resets the source-flag of the updated directory entry to the low state,

wherein the network includes an embedded-LDAP network device which contains an LDAP client, wherein the embedded-LDAP network device utilizes LDAP to send a directory entry to the directory server, the directory entry including a source-flag which is set to a high state, and

wherein, in the case that an updated directory entry corresponding to the embedded-LDAP network device is detected by the directory plug-in module and the

corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a unicast message over the network to the embedded-LDAP network device to indicate that an updated directory entry has been detected.

25. (Original) A method according to Claim 24, wherein the embedded-LDAP network device obtains, in response to the unicast message from the directory plug-in module, the updated directory entry from the directory server.

26. to 49. (Cancelled)

50. (Currently Amended) A directory-enabled network device according to Claim 49, for managing a plurality of network devices on a network, comprising:
a program memory for storing executable process steps, the executable process steps comprising, (a) detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol, (b) obtaining, by using the first communication protocol, from the detected network device, information related to the corresponding network device, (c) formatting the obtained information into a directory entry, (d) sending the directory entry to a directory server by using a second communication protocol, (e) monitoring, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server, (f) obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol. (g) extracting updated

data from the updated directory entry, and (h) sending the updated data to the network device which corresponds to the updated directory entry for placement into the information of the corresponding network device,

wherein the directory entry is formatted according to a standardized schema, and wherein the standardized schema of the directory entry includes a source-flag to indicate the source of the directory entry; and

a processor for executing the process steps stored in said program memory, wherein the source-flag in each directory entry is utilized by a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a multicast message over the network which indicates that an updated directory entry has been detected, and

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a high state, the directory plug-in module resets the source-flag of the updated directory entry to the low state,

wherein the network includes an embedded-LDAP network device which contains an LDAP client, wherein the embedded-LDAP network device utilizes LDAP to send a directory entry to the directory server, the directory entry including a source-flag which is set to a high state, and

wherein, in the case that an updated directory entry corresponding to the embedded-LDAP network device is detected by the directory plug-in module and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a unicast message over the network to the embedded-LDAP network device to indicate that an updated directory entry has been detected.

51. (Original) A device according to Claim 50, wherein the embedded-LDAP network device obtains, in response to the unicast message from the directory plug-in module, the updated directory entry from the directory server.

52. to 75 (Cancelled)

76. (Currently Amended) Computer-executable process steps according to Claim 75, stored on a computer readable medium, said computer-executable process steps for managing a plurality of network devices on a network, said computer-executable process steps comprising:

detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;

obtaining, by using the first communication protocol, from the detected network device, information related to the corresponding network device;

formatting the obtained information into a directory entry;

sending the directory entry to a directory server by using a second communication protocol;

monitoring, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server;

obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol;

extracting updated data from the updated directory entry; and

sending the updated data to the network device which corresponds to the updated directory entry for placement into the information of the corresponding network device,

wherein the directory entry is formatted according to a standardized schema, and wherein the standardized schema of the directory entry includes a source-flag to indicate the source of the directory entry,

wherein the source-flag in each directory entry is utilized by a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a multicast message over the network which indicates that an updated directory entry has been detected.

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a high state, the directory plug-in module resets the source-flag of the updated directory entry to the low state,

wherein the network includes an embedded-LDAP network device which contains an LDAP client, wherein the embedded-LDAP network device utilizes LDAP to send a directory entry to the directory server, the directory entry including a source-flag which is set to a high state, and

wherein, in the case that an updated directory entry corresponding to the embedded-LDAP network device is detected by the directory plug-in module and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a unicast message over the network to the embedded-LDAP network device to indicate that an updated directory entry has been detected.

77. (Original) Computer-executable process steps according to Claim 76, wherein the embedded-LDAP network device obtains, in response to the unicast message from the directory plug-in module, the updated directory entry from the directory server.

102. (Currently Amended) A computer-readable medium according to Claim 101, which stores computer-executable process steps, the computer-executable process steps to manage a plurality of network devices on a network, said computer-executable process steps comprising:

detecting the presence of at least one of the plurality of network devices on the network by using a first communication protocol;

obtaining, by using the first communication protocol, from the detected network device, information related to the corresponding network device;

formatting the obtained information into a directory entry;
sending the directory entry to a directory server by using a second communication protocol;

monitoring, by using a third communication protocol, for issuance of an update message from the directory server indicating that a directory entry has been updated in the directory server;

obtaining, in the case that an update message is issued, the updated directory entry from the directory server by using the second communication protocol;
extracting updated data from the updated director entry; and
sending the updated data to the network device which corresponds to the updated directory entry for placement into the information of the corresponding network device,

wherein the directory entry is formatted according to a standardized schema, and wherein the standardized schema of the directory entry includes a source-flag to indicate the source of the directory entry,

wherein the source-flag in each directory entry is utilized by a directory plug-in module which interfaces with the directory server and which monitors the directory server for detecting when a directory entry is updated,

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a multicast message over the network which indicates that an updated directory entry has been detected, and

wherein, in the case that an updated directory entry is detected and the corresponding source-flag of the updated directory entry is set to a high state, the directory plug-in module resets the source-flag of the updated directory entry to the low state,

wherein the network includes an embedded-LDAP network device which contains an LDAP client, wherein the embedded-LDAP network device utilizes LDAP to send a directory entry to the directory server, the directory entry including a source-flag which is set to a high state, and

wherein, in the case that an updated directory entry corresponding to the embedded-LDAP network device is detected by the directory plug-in module and the corresponding source-flag of the updated directory entry is set to a low state, the directory plug-in module sends a unicast message over the network to the embedded-LDAP network device to indicate that an updated directory entry has been detected.

103. (Original) A computer-readable medium according to Claim 102, wherein the embedded-LDAP network device obtains, in response to the unicast message from the directory plug-in module, the updated directory entry from the directory server.

104. (Cancelled)